2007 Bat Surveys on Fort Drum

As a follow-up to the *Fall 2007 Blaze Orange*, the first year of bat surveys concluded successfully on Fort Drum.

Fort Drum has extensive summer habitat suitable for the federally endangered Indiana bat (*Myotis sodalis*) . To learn more about Indiana bats and to guide future management decisions, Environmental Solutions & Innovations, Inc. from Cincinnati, Ohio was contracted to conduct the first installation-wide bat survey.

Between June and August 2007, 1,380 bats (see table on right) were captured in mist nets set up at 81 sites throughout the installation. Eight of the nine known species of bat occurring in New York were captured. Although the focus of the survey effort was for Indiana bats, information on all bats was recorded.

During the summer survey, 18 Indiana bats were captured—17 in the Cantonment Area and one in Training Area 4. Radio transmitters were placed on 10 Indiana bats and they were radio-tracked to determine roost sites.

Bat #952, a female Indiana bat captured on Fort Drum in June 2007. The bat has a band on its arm and a radio transmitter attached to its back. Photo by Adam Mann (ESI).

Radio-tagged Indiana bats used 24 different roost sites on Fort Drum. American elm was the most common tree species used (14 roosts), but seven other species were also used including sugar maple, black cherry, silver maple, slippery elm, American beech, quaking aspen, and red pine. For a bat, the structure of the tree is more important than the species of tree. Trees that have loose bark, cracks, crevices, or cavities are ideal roost trees for bats. On Fort Drum, there are a number of dead elm trees which provide great roosting habitat for bats.

TOTAL BATS CAPTURED	2007
Big Brown Bat	580
Little Brown Bat	441
Northern Long-eared Bat	261
Eastern Red Bat	65
Indiana Bat	18
Hoary Bat	7
Eastern Pipistrelle	4
Silver-haired Bat	4
Small-footed Bat	0
TOTAL BATS	1380

Indiana bats typically roost in trees greater than four inches in diameter. Trees with diameters of nine or more inches are typically used by female Indiana bats to establish maternity roosts where groups of females live together and raise their young.

In the fall, three additional Indiana bats were captured and fitted with radio transmitters. These bats were tracked for three to four weeks from September to October to determine their roosts during the day and foraging patterns at night. One bat was confirmed to leave Fort Drum on October 11 and return to its hibernaculum to spend the rest of the winter; contact was lost with the other two bats and it is assumed they also returned to the hibernaculum.

The combined summer and fall efforts at Fort Drum, as well as other studies in the region, indicate Indiana bats utilize small woodlots between Fort Drum and Brownville for both foraging and roosting. Indiana bats and other bats continue to be threatened by habitat loss during the summer as this same area continues to experience rapid development.

Since the first Indiana bat was confirmed on the installation in August 2006, Fort Drum's Fish and Wildlife Management Program has been working with the U.S. Fish & Wildlife Service's New York Field Office in Cortland, New York to ensure Fort Drum is meeting all of its obligations under the Endangered Species Act. This includes no Indiana bat being unintentionally killed or its population being adversely affected by the removal of habitat. One action designed to prevent harm to roosting bats is a restriction on tree cutting during the summer breeding season. Tree cutting may only occur after October 1 and before April 15 (when the bats are hibernating in caves and no longer utilizing the forests).

However, now a majority of ALL bats are facing an emerging and serious threat throughout New York, including Fort Drum. See Page 7 for more information.